

## REFLECTING ON STRATEGIES TO BUILD EFFORT AND PERSISTENCE

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| <b>Purpose</b>   | Teachers can use this reflection tool to think about the various aspects of their practice that contribute to developing beliefs that focus on effort and to building students' stamina or willingness to persist with challenges in learning mathematics. |
| <b>Materials</b> | Reflection Worksheet: Effort and Persistence   |
| <b>Media</b>     | <p><i>Developing Conceptual Understanding, Fluency, and Problem Solving</i>, multi-media overview</p> <p><i>Messages on Effort and Persistence</i>, slideshow</p> <p><i>Stamina, Effort, and Success</i>, slideshow</p>                                    |
| <b>Topic</b>     | National Math Panel: Critical Foundations for Algebra  |
| <b>Practice</b>  | Comprehensive Instruction  |

This tool is designed for mathematics teachers to use in reflecting on their use of teaching practices that facilitate students' development of persistence so that they are willing to invest effort in working through challenging mathematical problems and concepts. The reflection tool is divided into two categories: instructional practices and communication.

Teachers might view one or more of the recommended media items prior to completing the form to ensure they understand the core ideas. For those areas identified as needing additional strategies and support, teachers can be encouraged to seek information from mathematics curriculum leaders, coaches, and/or their peers. Coaches can use this tool with teachers as a way to focus classroom observations and structure discussions during feedback conferences. The tool can also be used as a needs assessment to provide ideas to district staff for framing professional development offerings.

| TEACHER SELF-REFLECTION: EFFORT AND PERSISTENCE   |                 |                        |                           |                    |
|---|-----------------|------------------------|---------------------------|--------------------|
| A. Instructional Strategies   |                 |                        |                           |                    |
| Do you. . .   | I do this often | I could use more ideas | I need support to do this | Improvement Action |
| 1. Model your thinking and problem-solving for students, including showing how you work your way through challenging problems?<br><br>Note: It is sometimes helpful for teachers to model struggling with difficult problems. |                 |                        |                           |                    |
| 2. Expect that all students will explain the steps they use in problem solving?   |                 |                        |                           |                    |
| 3. Provide students with opportunities to work with peers to solve problems and learn how others work through challenges?   |                 |                        |                           |                    |
| 4. Occasionally encourage students to use more than one approach to solving a problem?<br><br>Note: It is important not to overdo this technique.   |                 |                        |                           |                    |
| 5. Provide adequate wait time for students to think through and formulate an answer or explanation?   |                 |                        |                           |                    |
| 6. Expect students to complete assignments?   |                 |                        |                           |                    |
| 7. Expect students to correct errors?   |                 |                        |                           |                    |
| 8. Expect students to re-take assessments when they haven't shown proficiency?  |                 |                        |                           |                    |

| TEACHER SELF-REFLECTION: EFFORT AND PERSISTENCE   |                 |                        |                           |                    |
|---|-----------------|------------------------|---------------------------|--------------------|
| B. Communication  |                 |                        |                           |                    |
| Do you. . .   | I do this often | I could use more ideas | I need support to do this | Improvement Action |
| 1. Acknowledge children's efforts and persistence with positive, specific feedback?   |                 |                        |                           |                    |
| 2. Formally report to parents on effort that students expend in mathematics, e.g. via an effort rubric?   |                 |                        |                           |                    |
| 3. Use analogies to other areas that are difficult and where persistence and practice pays off, e.g. sports, musical achievement?               |                 |                        |                           |                    |
| 4. Communicate with parents about the importance of encouraging effort and persistence in their children?                                       |                 |                        |                           |                    |
| 5. Challenge parents' negative messages that they or their children are just "not good in math"?  |                 |                        |                           |                    |
| 6. Provide information to parents about when and how to help their children in mathematics?   |                 |                        |                           |                    |
| 7. Provide students with periodic opportunities to self-assess their own degree of effort applied to mathematics, and discuss with the teacher? |                 |                        |                           |                    |